WT № 06-150 / PS № 06-229 / WP № 07-100

Before the Federal Communications Commission

In re
Service Rules for the 698-746, 747-762,
and 777-792 MHz Bands

Implementing a Nationwide, Broadband, Interoperable Public
Safety Network in the 700 MHz Band

Amendment of Part 90 of the Commission's Rules

ON FURTHER NOTICE OF PROPOSED RULEMAKING

COMMENTS OF THE NATIONAL EMERGENCY NUMBER ASSOCIATION

Telford E. Forgety, III
Attorney
Director of Government Affairs

National Emergency
Number Association
4350 N. Fairfax Dr., Ste. 750
Arlington, VA 22203-1695
(703) 812-4600

The National Emergency Number Association ("NENA") respectfully submits the following comments in response to the *Third Report and Order and Fourth Further Notice of Proposed Rulemaking* adopted by the Commission on January 25th, 2011, in this proceeding.

COMMENTS

Public safety is a core function of government, and connecting individuals in distress with emergency responders is perhaps the most critical function of our nation's public safety communications systems. NENA is heartened, therefore, by the Commission's ongoing focus on the needs of the public safety communications community. In particular, we are delighted that the Commission asks timely and insightful questions about the necessary confluence of responders' mobile broadband communications systems and the nation's 9-1-1 systems. NENA considers the direct connection of inbound and outbound systems to be one of the most important and fundamental evolutionary leaps in public safety communications since mobile radios were first deployed in vehicles over sixty years ago.

Given the sheer scope and scale of these interconnected projects, achieving the vision of a seamless, end-to-end public safety communications infrastructure will require a more integrated and coordinated approach than previous public safety communications deployments. NENA believes that it *is* possible to achieve this vision, and will continue to work closely with other standards bodies and public safety organizations to ensure that public safety wireless broadband systems and NG9-1-1 systems develop in harmony and evolve in parallel.

The Commission can best assure connectivity between public safety broadband networks and NG9-1-1 systems by ensuring that *both* architectures are based on open standards.

As NENA explained in response to the Commission's recent *Notice of Inquiry* in PS Docket No. 10-255, standards-based interfaces and communications protocols are

the *sine qua non* of robust, effective, and cost-efficient NG9-1-1 systems.[1] Likewise, NENA believes that the long-term success of the public safety wireless broadband network and the broader public safety communications ecosystem is heavily contingent upon the adoption of standards-based systems. Without a strong mandate for standards-based protocols and interfaces, public safety wireless broadband networks and NG9-1-1 systems could be condemned to repeat the decades-long struggle for true interoperability faced by public safety Land Mobile Radio (LMR) operators. Fortunately, there is now nearly universal agreement that this is the correct approach: Almost every commenter in the NG9-1-1 proceeding agreed that the standards-based model adopted by NENA in its draft i3 solution can best assure the public safety community of continued interoperability and low-cost interworkability.

A. The operational model for public safety broadband networks must be more clearly defined before specific technical issues associated with NG9-1-1 interwork can be identified.

At present, the end-state architecture of the proposed public safety broadband network(s) is unclear. Given the many waivers granted to smaller jurisdictions for the early construction of broadband networks, one might assume that the initial architecture will be a highly granular network-of-networks. This approach is eschewed, however, by the Public Safety Spectrum Trust and others who

---

[1] We consider it important to distinguish between an "ESInet," the IP transport system over which NG9-1-1 traffic is passed once it is accepted from an access network provider, and an "NG9-1-1 system," consisting of one or more ESInets, PSAPs, and other functional elements. While it may ultimately be ESInets that the public safety broadband network must interoperate with at the physical level, other functions of NG9-1-1 that are not technically part of an ESInet will undoubtedly play important roles in future emergency response as well.

advocate for a single nation-wide network. NG9-1-1, as a concept, also faces critical scale choices: 9-1-1 has traditionally been operated as an almost exclusively local concern, with only limited State and Federal involvement. NENA's vision for NG9-1-1, and our draft i3 standard, continues to emphasize the predominance of local control while recognizing that economies of scale and technical sophistication associated with core NG9-1-1 components such as Emergency Service Internetworks ("ESInets") militate strongly in favor of regional or State-based governance models. Compounding these problems, the practicalities of federalism likely preclude the resolution of these architectural ambiguities in the near term.

As the Commission, States, and localities progress toward final architectural models for public safety wireless broadband deployments and NG9-1-1 systems, it will be beneficial to keep in mind three key technical issues that must influence the architectural debate and be resolved alongside it to permit successful integration of these disparate environments: First, it is imperative that *both* systems adopt common – or at least compatible – standards for data interchange. Second, appropriate demarcation points must be identified to ensure cost-effective interconnection. Finally, both systems must evolve along clearly mapped-out and regularly-synchronized paths in concert with commercial mobile (i.e., *consumer*) technologies to ensure the long-term convergence of system capabilities.

B. NENA's draft technical standards for NG9-1-1 are compatible with the high-level architecture proposed by the Commission.

Although still in draft status, NENA's i3 solution represents a clear consensus standard for the core interfaces and functional components needed to complete a baseline NG9-1-1 system. In the abstract, the i3 solution is fully compatible with the Commission's proposed architecture for the public safety wireless broadband network: both operate using IP-based transport, and both support

standards-based interchange of text, images, video, audio, and other forms of data. To be sure, important details remain to be worked out. NENA is committed to working with others in public safety and the wireless industry to maintain compatibility and interoperability with public safety wireless broadband networks throughout the NG9-1-1 lifecycle, however, and has already formed working groups to address foreseeable changes in network technologies that may impact the operation of NG9-1-1 systems.

For example, 4th-generation wireless technology such as LTE is undergoing rapid development. In particular, foundational technologies such as Internet Protocol Multimedia Subsystem ("IMS"), Voice over LTE ("VoLTE"), and Non-Voice Emergency Services ("NOVES") are not yet fully developed. However, Public Safety's commitment to LTE, and the Commission's ratification of that choice, have made it possible for both public- and private-sector NG9-1-1 participants to begin incorporating compatible technical principles into evolving standards and products.

To ensure long-term compatibility and standards convergence, NENA has kept abreast of ongoing standardization efforts by ATIS, the IETF, and others. Our role in the broader standards community is not merely passive, however: NENA staff and development committee volunteers are actively participating in outside standards development efforts to ensure that the draft i3 standard influences the work of other bodies and that future iterations of NENA's standards are influenced by their work in turn. We believe this cyclical and symbiotic development process will ensure that the needs of the public safety community are incorporated into commercial standards and vice versa, and we encourage the Commission to explore ways by which it might foster more such collaboration between public safety organizations and commercial standards-setting bodies.

CONCLUSION

Almost ten years after the most significant terrorist attack on American soil, the United States still lacks a ubiquitous system of interoperable broadband communications connecting consumers, dispatchers, and responders. The Commission's *Third Report and Order* represents a significant step toward addressing this lamentable state, and NENA commends the Commission for recognizing the necessity of swift action. Finally, we thank the Commission for once again recognizing the need to ensure the closest possible technical and operational coordination between agencies deploying NG9-1-1 systems and public safety wireless broadband networks: This collaboration will ensure that, once these systems are in place, American's who face a man-made or natural disaster will have available public safety communications systems ready to connect those in need with those sworn to serve.

TELFORD E. FORGETY, III
Attorney

APRIL 2011